ALBERTA AGRICULTURE

ANNUAL REPORT

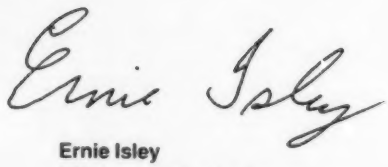
1990-1991

His Honour The
Honourable Gordon Towers
Lieutenant-Governor of the Province
of Alberta

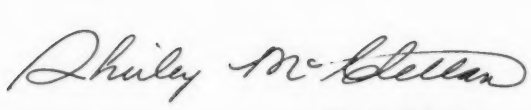
Sir:

We have the honour to submit the annual report of Alberta Agriculture for the fiscal year ended March 31, 1991.

Respectfully,



Ernie Isley
Minister of Agriculture



Shirley McClellan
Associate Minister of Agriculture and
Minister Responsible for Rural Development

The Honourable Ernie Isley
Minister of Agriculture

The Honourable Shirley McClellan
Associate Minister of Agriculture and
Minister Responsible for Rural Development

Sir and Madam:

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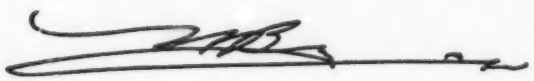

H.B. McEwen
Deputy Minister

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Alberta Agriculture Mission:
To support the maintenance and further development of a self-reliant, sustainable agriculture and food industry in Alberta.

As in 1989-90, the format of this report conveys the department's strategic approach to service to the farmers, farm families and food processors of our province.

This year, services to both Alberta's farmers and food and beverage processors are summarized in the first section of the report. This reflects the close relationship and inter-dependence of farm production and further processing in the agriculture and food industry. A more tangible step which we have taken to strengthen this linkage is the combination of Production and Marketing services into one sector of the department.

In 1990, farm cash receipts in Alberta decreased by seven per cent from the previous year to $4.2 billion. Livestock receipts moved up slightly but crop receipts declined by over $360 million. Whereas payments under the Western Grain Stabilization Act were as high as $368 million in 1987, there were no payments in 1990. Realized net income for Alberta in 1990 was $403 million, a 45 per cent decline from the 1989 level of $733 million.

On the more positive side, 1990 production of the six major grains was 16.1 million tonnes, the second largest production on record for the province. Fall weather provided some of the best harvest conditions in years and this resulted in crops of above average quality. Grain prices were not part of this favorable environment and continued their downward trend. Fortunately, Alberta farmers were able to maintain their grain and oilseed marketings above the 10 million tonne level which provided badly needed cash flow. The short fall in the marketplace was only partly offset by direct payments from government programs and, as stated above, total cash receipts from crops in 1990 decreased from 1989 by $360 million.

Alberta's livestock industry continued to show its strength with an increase of two per cent in numbers of cattle and calves on farms and a 10 per cent increase in sheep and lambs. The beef industry in the province continued to expand as it has for the past several years. This expansion has added $350 million to farm cash receipts since 1987. Increased output combined with stronger prices to give beef producers one of the better years in memory. Modernization of the beef packing industry has further strengthened Alberta's position as a reliable source of top quality beef.

Hog numbers on Alberta farms decreased by two per cent in 1990 as a result of losses incurred in the industry during 1988 and 1989. However, stronger prices resulted in increased receipts from hog sales.

Alberta farmers were able to benefit from the many government programs in place to help them increase revenues or reduce expenditures. Provincial programs alone provided benefits of nearly $600 million in 1990.

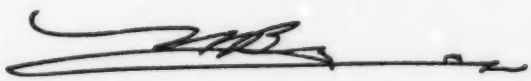
Food and beverage processing was the largest manufacturing industry in Alberta in 1990 in both sales and employment. Food and beverage shipments were $4.9 billion, approximately 24 per cent of Alberta's manufacturing shipments. These shipments represented over 40 per

cent of food processing in Western Canada. The food and beverage industry added $1.08 billion to the value of agriculture products purchased from Alberta farmers and ranchers.

Alberta's farmers, ranchers and the food and beverage industry rely heavily on trade within and outside Canada. The value of out-of-province shipments equalled $3.9 billion in 1990, of which $2.7 billion was exported out of Canada.

I again thank all the capable and dedicated staff of Alberta Agriculture. Special thanks and best wishes are extended to Harold Hanna and Bill Dent, Assistant Deputy Ministers who retired during the year.

I conclude by stating my belief that there is great potential for the further development of the agriculture and food industry in Alberta. We in the department are committed to working in partnership with industry as we strive to achieve that potential. At the time of writing this report, we are consulting with industry leaders in developing a vision and identifying the challenges and opportunities that lie before us as we move toward 2000 and beyond.



H.B. McEwen
Deputy Minister

Alberta farmers and processors generate income and employment that serve to broaden the province's economic base. The department provides services that increase the long-term profitability of the industry, and assist processors and primary producers in dealing with economic and environmental changes.

Serving Primary Producers

Providing Income Support

Alberta's participation in eight national tripartite stabilization plans reduced the uncertainty faced by producers of livestock and special crops. Significant payouts were received by producers enroled in stabilization plans for honey, beans and lambs. Slaughter cattle and hog producers received minor payouts during the year. Producers enroled in the feeder cattle, cow-calf and sugar beet stabilization plans did not require stabilization payments.

The Government of Alberta introduced the Alberta Purchased Feeder Lamb Stabilization Plan to ensure the viability of the lamb feedlot industry in the province. This bipartite program provides coverage to producers for those lambs not eligible under the national tripartite stabilization plan.

A further 3,085 loan authorizations for long-term fixed rate financing were made under the Alberta Farm Credit Stability Program. Lending stopped on July 6, 1990, when the $2.5 billion lending limit was reached. The number of active loan authorizations stood at 30,556.

More than 47,000 Alberta farmers received a total of $100 million in payments under the Canada/Alberta 1990 Farm Income Assistance Program. This joint federal-provincial program was developed to help offset farm income losses in 1990 caused by poor weather, high input costs and low grain prices.

Farmers enjoyed lower costs for nitrogen and phosphate fertilizers as a result of the $18.78 million paid out in grants through the Alberta Farm Fertilizer Price Protection Plan.

Seventy-four greenhouse operators received grants totalling $619,536 under the Greenhouse Industry Assistance Program. Funding was provided for 96 projects that encouraged the adoption of new technology such as waste heat recovery, carbon dioxide enrichment systems, environmental control computers, and high pressure sodium lighting were funded.

Sixty-one beekeepers received $67,000 from the department to reduce the cost of overwintering/spring feeding of honey bees through the Alberta Sugar Price Reduction Program. During the life of the program $178,450 has been paid out.

Emergency Assistance

The Government of Alberta responded to the severe and prolonged drought in the southeastern part of the province by implementing the Disaster Assistance Program – Southeastern Alberta – 1990. Qualifying producers were offered nine per cent loans, interest-free for the first two or five years or an equivalent interest benefit payment. Specially tailored conservation plans were developed for those producers with soil conservation problems on their farms. Financial planning and counselling was offered to producers affected by drought to help them identify problem areas and determine viable alternatives.

Through the Emergency Dugout Pumping Program, farmers and ranchers were provided with a secure water supply for domestic needs and

livestock. Over 300 contracts were serviced by this $300,000 program of which $100,000 was recovered from users in rental fees.

Investing in Research

Grants totalling $4 million were made by Farming for the Future for 110 research projects to enhance the long-term viability and profitability of Alberta's primary producers. To accelerate the adoption of new technology, 97 on-farm demonstration projects were supported with grants totalling $480,788.

Department researchers identified a number of new crops that are adapted to Alberta conditions including varieties of European field peas, confectionary sunflowers and day neutral strawberries as well as cut flowers for use by the greenhouse industry.

Research efforts by department staff overcame crop establishment and weed control problems encountered in producing commercial quantities of monarda. Monarda oil produced in Alberta was sold to the fragrance industry. It appears the production of essential oil crops is viable in the province.

Alberta Agriculture responded to the needs of farmers by undertaking research to develop sustainable cropping systems that included investigations into the yield-limiting factors associated with reduced summerfallow and less tillage. The department expanded its research programs by obtaining grants and entering into joint research projects with private sector companies and other institutions.

The department began a testing program to compare the performance of perennial forage crops at 10 sites in the province. The results will be used for making varietal recommendations to Alberta farmers.

The department manufactured a wind tunnel to study pesticide spray drift and evaluate spray drift control devices. The tunnel's unique design allows a wide variety of wind and spray application combinations. The tunnel was designed with the assistance of Boeing Corp. and the University of Calgary, University of Saskatchewan and University of Washington.

Backing Beekeepers

Tracheal mite infestations were found at 26 beekeeping operations located around the province. As of March 31, 1991, Varroa mites had not been found in Alberta. To help prevent Varroa mites from entering Alberta, the Canada/United States border remained closed to the importation of bee packages.

The department provided beekeepers with information to help them make the transition from a bee package industry to one based on full-time beekeepers producing their own beestock. Approximately 150,000 colonies were prepared for winter, with an average survival rate of 88 per cent.

Confronting Weed Problems

The department promoted the use of bio-control agents for weed control as an alternative to herbicides. Alberta Agriculture, in co-operation with the Alberta Environmental Centre, participated in a program to distribute flea-beetles that can control leafy spurge.

All known knapweed and nodding thistle sites in the province were chemically treated and mature plants removed. These noxious weeds have been successfully eradicated at several sites. Eradication programs are in place in both Jasper and Banff National Parks and a similar program is continuing in Waterton National Park.

Fields with confirmed populations of herbicide resistant weeds were evaluated by department staff so that options can be provided to crop producers facing this problem.

Monitoring Pests

Alberta Agriculture staff monitored the population levels of several insect pests and provided forecasts of possible infestations. Among those pests monitored were grasshoppers, bertha armyworms, Russian wheat aphids and several species of cutworms. Pheromone trapping programs were expanded in several districts to increase the accuracy of the forecasts. Because of both the monitoring and extension programs of the department, losses to insects were minimal and infestations were controlled in a timely fashion.

The department co-ordinated a monitoring program for disease-carrying beetles of Dutch elm disease, primarily along the Alberta/Montana border. No evidence of the disease was found.

Promoting Farm Safety

The farm safety program began an information campaign to encourage farmers to apply and dispose of chemicals safely. Many farmers are not fully aware of the risks involved in using pesticides. Alberta farmers increased interest in safe handling of pesticides should translate into fewer accidents and healthier farm environments.

Children were the focal part of two farm safety programs of Alberta Agriculture. Nearly 50,000 copies of the *A Child's Guide to Farm Safety* were distributed in rural schools. A new campaign was implemented to encourage children to remind their parents to remove keys from farm machinery. This program was promoted in co-operation with John Deere Limited.

Safeguarding Animal Health

The four livestock diagnostic laboratories operated by Alberta Agriculture provided producers and veterinarians with assistance to diagnose 9,000 cases of disease or production loss in cattle, 3,100 from poultry operations, 500 from swine, and 200 from sheep and goat operations.

The department provided cattle producers with a consultation service for diagnosing the causes of livestock infertility and fetal losses by abortion.

Using government-owned clinics, veterinarians in private practice served producers in areas of the province with lower livestock numbers. Clinics were operated in Edson, High Prairie, Valleyview, Fairview, Manning and Fort Vermilion through the Northern Veterinary Clinics Support Program.

The department maintained a quality assurance program to ensure that the laboratory services provided to the province's veterinarians and producers were maintained at a high standard.

Alberta Agriculture employed private veterinary practitioners to inspect animals at all of Alberta's livestock markets and prevent the sale of visibly diseased or distressed animals. Humane treatment of animals at auction markets was also promoted by department staff.

Alberta Agriculture co-operated with Agriculture Canada to contain an outbreak of bovine tuberculosis discovered on game farms. The tuberculosis outbreak was detected at an early stage by the province's livestock disease monitoring system. Alberta Agriculture provided the federal government with veterinary expertise to conduct post mortem examinations of all animals ordered destroyed.

Alberta Agriculture provided a laboratory assay system for trace mineral deficiencies and excesses, nutritional deficiencies, toxicoses and water suitability analysis.

Livestock Software Programs
Cowbytes, a beef ration evaluation/formulation computer software program, was made available to the public for a fee. Specifically developed for Alberta conditions, this program allows producers to develop and assess feeding programs. Cowchip$, another software package developed by the department, was also offered to the public. The program allows cow-calf producers to evaluate the production of their herds, identify problem areas and where improvements can be made.

Royalties for Swine Breeders
Alberta Agriculture introduced a program to pay royalties to the breeders of the top quality boars used at the Alberta Swine AI Centre. During the year the department tested over 18,500 breeding pigs for fatness and growth rates.

Farm Weather Line
Alberta Agriculture, in co-operation with Environment Canada, operated the Farm Weather Line. This year-round service provided current farm weather forecasts from seven centres around Alberta. The service received over 260,000 calls, a 69 per cent increase from the previous year.

Working with Rural Youth
The department promoted the development of technical skills for rural youth in the areas of agriculture, homemaking and the environment. Membership in the 457 4-H clubs throughout Alberta stood at 7,227.

Green Certificate
In response to a shortage of qualified staff in the dairy and swine industries, the department's Green Certificate Program certified 52 people in the swine program and 26 in the dairy portion of this apprentice-style training program. In total, 161 trainees were enroled in the Green Certificate Program on farms around the province.

Developing Marketing Skills
To further improve the marketing skills of Alberta farmers, the department published an agricultural marketing manual that provides in-depth explanations of all aspects of marketing agricultural commodities.

Alberta Agriculture prepared timely market information and analysis for farm organizations and the media.

Costs and Returns
Alberta Agriculture expanded its data collection base on farm enterprise costs, returns and profitability for crops and livestock. To emphasize farm and crop diversification, more information on specialty crops costs and returns was gathered. The information collected by the department was used to help individual producers increase the efficiency of their operations and to assist the provincial government in formulating and evaluating policies.

Farm Management Training
In co-operation with the Rural Education and Development Association (REDA), basic training in financial, marketing and human resource management was provided to over 800 farm families through the Canada/Alberta Farm Financial Management and Advisory Agreement. This training made these farm families more aware of the financial position of their farms and the marketing opportunities open to them. REDA also co-operated with the department to update accountants on the Goods and Services Tax (GST).

Interest in farm recordkeeping increased with the introduction of the GST, and the department responded by offering more training sessions.

Providing Local Services
The department's staff in its six regional and 66 district offices provided production, marketing, conservation, business management and family information to producers and their families. This information was communicated through office visits, personal consultations on farms, training courses, meetings, newsletters, newspapers, videos, radio broadcasts and publications. Local staff also provided service for various agricultural support programs offered by the provincial and federal governments. Staff advised local processors on promotions to market Alberta products and provided consulting services to local agri-businesses.

Expanded Computer Network
The services received by producers improved as the computer network used by field and headquarter staff was expanded and enhanced. The department introduced automated information systems to speed up the processing of payments to producers participating in various stabilization and support programs. The animal health computer information system was enhanced to improve the delivery of department laboratory reports to farmers and their veterinarians.

Serving Agriculture and Food Processors

Strengthening the Industry

During the year, 129 payments totalling $5.13 million were made to encourage value-adding and the diversification of the Alberta economy through the Canada/Alberta Subsidiary Agreement on Agricultural Processing and Marketing (APMA). Another $8.65 million of assistance was approved for 20 companies. The program ended on March 31, 1991 and negotations commenced on a subsequent agreement.

Many new food products were developed and introduced to the marketplace as a result of the $308,869 offered in 93 grants to the agri-food processing industry. Nine agri-food associations received $346,271 of which $303,000 was granted to the Alberta Food Processors Association.

In a joint marketing effort with the Alberta Food Processors Association, the department contributed $1 million to "The Opportunity is Now" Program. The program promoted the use of Alberta food and beverage products by hotels, restaurants and institutions and increased market share of Alberta processed food products in the province.

Assuring Food Quality and Safety

Under the authority of the Alberta Meat Inspection Act, more than 220,000 animals were inspected at 70 red meat plants, and 3.5 million poultry were inspected at 94 poultry plants.

A total of 2,848,632 analytical tests were performed on 701,232 samples of milk, milk products, meat, honey and various other foods received by the department. Samples of all fluid milk products were tested and 99.1 per cent of them met microbiological standards.

A pasteurizer inspection program developed by Alberta Agriculture was chosen as the model for a national program.

Alberta Agriculture received official accreditation from the federal government to test for *Listeria monoctyogenes*. The department maintained a monitoring program for these bacteria in processed meat products and at meat processing facilities.

Alberta Agriculture co-ordinated the formation of a Quality Assurance and Food Safety Program for the agriculture and food industry in the province.

The department provided in-plant advisory and consultation services for food processors in the areas of quality control, process trouble-shooting, process equipment modification and plant start-up.

Supporting Product Development

The Food Processing Development Centre provided technical assistance to approximately 250 food processors, which included such services as reviewing canning procedures and testing formulations of food products. The Centre conducted over 280 tasting panels for industry and government to evaluate the flavor, color and texture of a wide variety of food products. This represented a 50 per cent increase in the number of taste panels held in the previous year.

A product labelling program was introduced in response to increasing demand for assistance with the

preparation of labels and nutritional data required by processors. Labelling assistance was provided for 160 processed food products ranging from perogies to tortilla chips. These products are marketed both domestically and internationally.

Thirty-five companies took advantage of the Agri-food and Processing Development Assistance Program to travel out of the province to evaluate new technology for processing, product manufacturing and packaging.

Developing Markets

The department promoted the benefits of investing in Alberta's agri-food industry. Emphasis was placed on informing investors in Pacific Rim nations about the advantages of locating in Alberta's strong and diverse agricultural economy.

The department assisted producer organizations, agribusinesses, and food processors by co-ordinating trade missions, promotional programs and trade shows. Special promotions were held in Brazil and Mexico to showcase Alberta livestock and livestock genetics.

The north-west United States and Japan continued to be the focus of Alberta Agriculture's marketing initiatives. The growth of processing output has changed the marketing focus from offering commodities on a price basis to offering specific food products to segmented markets within the global marketplace.

With the removal of beef quotas in Japan, the department assisted packers and producers in a $1 million market development program to promote the use of high quality Alberta beef and beef products in Japan. The department financially supported the Canadian Beef Export Federation, which established its head office in Calgary and a branch office in Japan.

Missions from Foreign Countries Supported by Alberta Agriculture in 1990-91

Product	Nation(s)
Beef breeding stock	Argentina, China, Japan, Korea, Mexico, United States
Dairy breeding stock	United States
Swine breeding stock	Japan, Korea, Mexico
Winter rye and oat seed	Korea
Bakery products	United States
Beef, pork and processed meats	Hong Kong, Japan, Korea, Southeast Asia, Taiwan, United States
Condiments	United States
Honey products	United States
Livestock genetics	Australia, Iran, Japan, Korea, Soviet Union, United States
Processed foods	Japan, Hong Kong, Southeast Asia, United States
Processed forage products	Japan, Korea, Portugal, Taiwan
Wines and spirits	Japan
Bottled water	Australia, Hong Kong, Malaysia, New Zealand, Singapore, United States

Missions to Foreign Countries Supported by Alberta Agriculture in 1990-91

Product	Nation(s)
Barley	Korea, United States
Malt barley	Hong Kong, Indonesia, Japan, Korea, Malaysia, Taiwan, Thailand
Oats	Korea, United States
Oat seed	Korea
Organic grain	Germany, Holland, United Kingdom
Peas	Denmark, Netherlands, Sweden, Germany, United Kingdom
Potato seed stock	Mexico, United States
Beef breeding stock	Argentina, Australia, Brazil, China, Denmark, Japan, Mexico, Soviet Union, Thailand, United Kingdom, United States
Dairy breeding stock	France, Japan, Mexico, Spain, United Kingdom, United States
Swine breeding stock	Mexico
Leisure horses	France, Germany, Italy, Japan, United Kingdom
Bakery products	United States
Beef	Hong Kong, Japan, Korea, Singapore, Taiwan, United States
Canola oil and meal	Korea, New Zealand, United States
Essential oils	France
Honey	Hong Kong, Japan, Korea, United States
Livestock genetics	Argentina, Brazil, Costa Rica, Denmark, France, Mexico, Soviet Union, United States, Uruguay
Pasta	United States
Pre-mixed flours	Japan, Korea, United States
Processed forage products	Germany, Japan, Korea, Kuwait, Oman, Portugal, Saudi Arabia, Spain, Taiwan, United Arab Emirates
Processed meats/pork	Hong Kong, Japan, Korea, New Zealand, Taiwan, United States
Processed foods	United States
Speciality beers	Japan, United States
Wines and spirits	Germany, Hong Kong, Japan, Korea, New Zealand, Singapore
Bottled water	Malaysia, New Zealand, United States

Alberta Agriculture is committed to fostering self-reliant industry organizations, and ensuring the existence of appropriate private and government support systems to serve the needs of primary producers and processors. The department worked in numerous ways with various groups to realize these goals.

Crow Benefit Distortion
The department developed the 'Freedom to Choose' proposal as an alternative to the current method of paying the WGTA Crow Benefit. In the Alberta proposal, owners of arable land in the Canada Wheat Board designated area would receive interest bearing bonds to replace annual payments of the Crow Benefit to the railways. Under the Crow Benefit Offset Program, the Government of Alberta paid $36.3 million to 13,129 feed grain users to offset the distortion caused by paying the Crow Benefit to the railways.

Developing Policy
Following the launch of the Federal/Provincial review of agricultural policies and programs, known as "Growing Together", the department continued to participate in almost all the initiatives mandated by joint decision of the Ministers of Agriculture. Reports were prepared on agricultural transportation, farm finance and management, environmental sustainability, safety nets, national dairy policy, agricultural research and technology transfer, competiveness and food safety.

The department participated in the development of two national safety net programs for farmers: the Gross Revenue Insurance Plan (GRIP) and Net Income Stabilization Plan (NISA). GRIP was offered to farmers for the 1991 cropping season.

The department worked closely with Alberta Environment on refinements to the proposed Alberta Environmental Protection and Enhancement Act as it affects farm operators.

Privatization of Alberta Terminals Ltd.
The department negotiated an agreement for the sale of Alberta Terminals Ltd. to Cargill Limited. The crown-owned corporation was sold on February 8, 1991. The sale ensured that the three elevators would be used by the private sector to provide increased efficiency in the handling of grains and oilseeds for export. Alberta farmers are expected to benefit from the increased level of effective competition in the industry.

Agriculture and Food Trade Policy
The department provided the agricultural perspective to the Government of Alberta's submission regarding the position the federal government should take at the GATT Multilateral Trade Negotiations. Particular attention was paid to how the export-oriented nature of Alberta's agriculture and food industry would be affected by improved market access, the discipline on subsidies, countervailing duty measures and dispute resolution process.

The department made representations to the federal government in regard to accelerated tariff elimination and technical barriers to trade under the implementation of the Canada-U.S. Free Trade Agreement.

The department participated in a successful challenge to countervailing duties that the United States placed on Canadian and Alberta pork exports.

The department submitted its concerns to the Federal/Provincial Agriculture Trade Policy Committee, which is now focusing on the establishment of a single Canadian common market open

to any producer or industry located anywhere in Canada on the basis efficiency and competitiveness.

Alberta Agriculture provided input on the trade policy implications of the WGTA, NISA and GRIP, etc., emphasizing the importance of linkages with domestic agriculture and food policy.

In anticipation of a North American Free Trade Agreement, the department set out Alberta's position on agriculture regarding the advantages of an agreement and the removal of tariff and non-tariff barriers that impact on Alberta's export interests.

Working with Producer Associations

Financial assistance was given to the Alberta Winter Wheat Producers Association and the Alberta Soft Wheat Producers Association to aid them in their efforts to pursue commission status. They began operation as marketing commissions in August, 1990.

The Province provided a total of $310,080 to help 25 seed cleaning plants with upgrading projects. Another $400,000 was provided to assist with the replacement costs of the Three Hills seed cleaning plant.

Ten forage associations received grants totalling $310,950 to develop, demonstrate and transfer new forage technology to farmers.

The operation of a program that successfully used sheep to control a leafy spurge infestation in the St. Mary's River basin was turned over to local organizations to manage.

To encourage the marketing activities of commodity and breed associations, $362,000 was provided to provincial crop, feedstuff and horticultural organizations. Cattle breed associations received $249,000 and livestock, semen and embryo companies received grants totalling $50,000 for enhancing the development of the genetic and commercial livestock industries and expanding international sales of Alberta produced genetic material.

Agricultural Societies

During the year, the department processed 357 operating and fair grants totalling $1.53 million and five capital grants totalling $250,000. The funds for these grants were provided by the Alberta Lottery Corporation. Unconditional grants totalling $5.42 million were distributed to 270 fairs and exhibitions. Sixty-five Agricultural Initiatives Program grants totalling $3.17 million were processed.

Over $4.33 million was distributed to 67 agricultural service boards.

Increasing Agriculture and Food Awareness

Over 10,000 teachers received agriculture-related curriculum materials from the department's Agriculture in the Classroom Program. The material up-dated the image of agriculture by showing the economic importance of agriculture and the diverse career opportunities within the industry.

Agricultural societies and agricultural service boards co-operated with department staff to develop agriculture

and food safety tabloids that were distributed during Agriculture Week.

Alberta Agriculture prepared learning materials on food safety for the public and the food industry's response to health issues. The department also conducted workshops for elementary school teachers, focusing on the link between nutrition and health.

Alberta Agriculture has responded to the challenge of managing agricultural resources in an environmentally responsible manner by focusing on research that conserves soil and water, testing equipment that will minimize moisture losses and soil degradation, and promoting the adoption of management practices by farmers that will ensure the productivity and sustainability of Alberta's land base.

Serving Irrigated Agriculture
Technical assistance and advice was provided to over 700 individual producers regarding the development or modification of their on-farm irrigation or irrigation related drainage systems. Water and energy use efficiencies and land conservation/ reclamation were promoted. More than 150 new irrigation projects were evaluated to assess how effectively they would be in utilizing land, water and energy resources.

The Alberta Irrigation Management Program (AIM) assisted 126 irrigation producers improve their skills in effectively managing their irrigation systems to achieve optimum yields and water use efficiencies.

The Alberta Private Irrigation Development Assistance Program (APIDA) provided $223,211 in engineering and capital assistance grants for the construction of conveyance systems supporting the development of 2569 acres of new irrigated land in private projects located outside the service areas of the irrigation districts.

The Irrigation Rehabilitation and Expansion Program provided $25 million to the 13 irrigation districts on an 86:14 cost shared basis to assist them in the rehabilitation of their conveyance and water management infrastructure.

Nearly 37,000 acres of land in 423 parcels were classified to determine their suitability for irrigation development.

The department mapped saline and waterlogged areas to help irrigation districts plan reclamation programs.

Conserving Soil and Water
Producers and municipalities received technical and financial assistance from the department to prevent and control soil degradation caused by wind and water erosion, and dryland salinity.

The department sponsored the preparation of over 200 farm conservation plans for producers who were affected by flooding in north-western Alberta and by severe drought in southern areas of the province.

Canada/Alberta Soil Conservation Initiative (CASCI)
Through the Canada/Alberta Soil Conservation Initiative (CASCI), grants totalling over $2.23 million were provided to 67 agricultural service boards and 27 producer groups. The submission of conservation plans was a condition of receiving grant money thus ensuring that the CASCI funding is used to develop a long-term conservation ethic amongst producers.

CASCI provided $399,508 of funding for soil conservation research. The funds supported a soil conservation professorship at the University of Alberta and a long-term, sustainable cropping project.

Canada/Alberta Agreement on Soil, Water and Cropping Research Technology Transfer (CARTT)
The focus of the Canada/Alberta Agreement on Soil, Water and Cropping Research Technology Transfer (CARTT) was on sustaining crop production under the diverse soil and climate conditions found in north-eastern Alberta. Through the program,

researchers continued to evaluate a variety of cropping systems and alternative crops. In a province-wide component of the program, conservation technology was transferred through 36 demonstration and awareness projects and 23 applied research projects.

Establishing Shelterbelts

The department distributed 1.3 million plants for establishing and refurbishing shelterbelts in Alberta. Another 27,000 plants were used for demonstration shelterbelt plantings.

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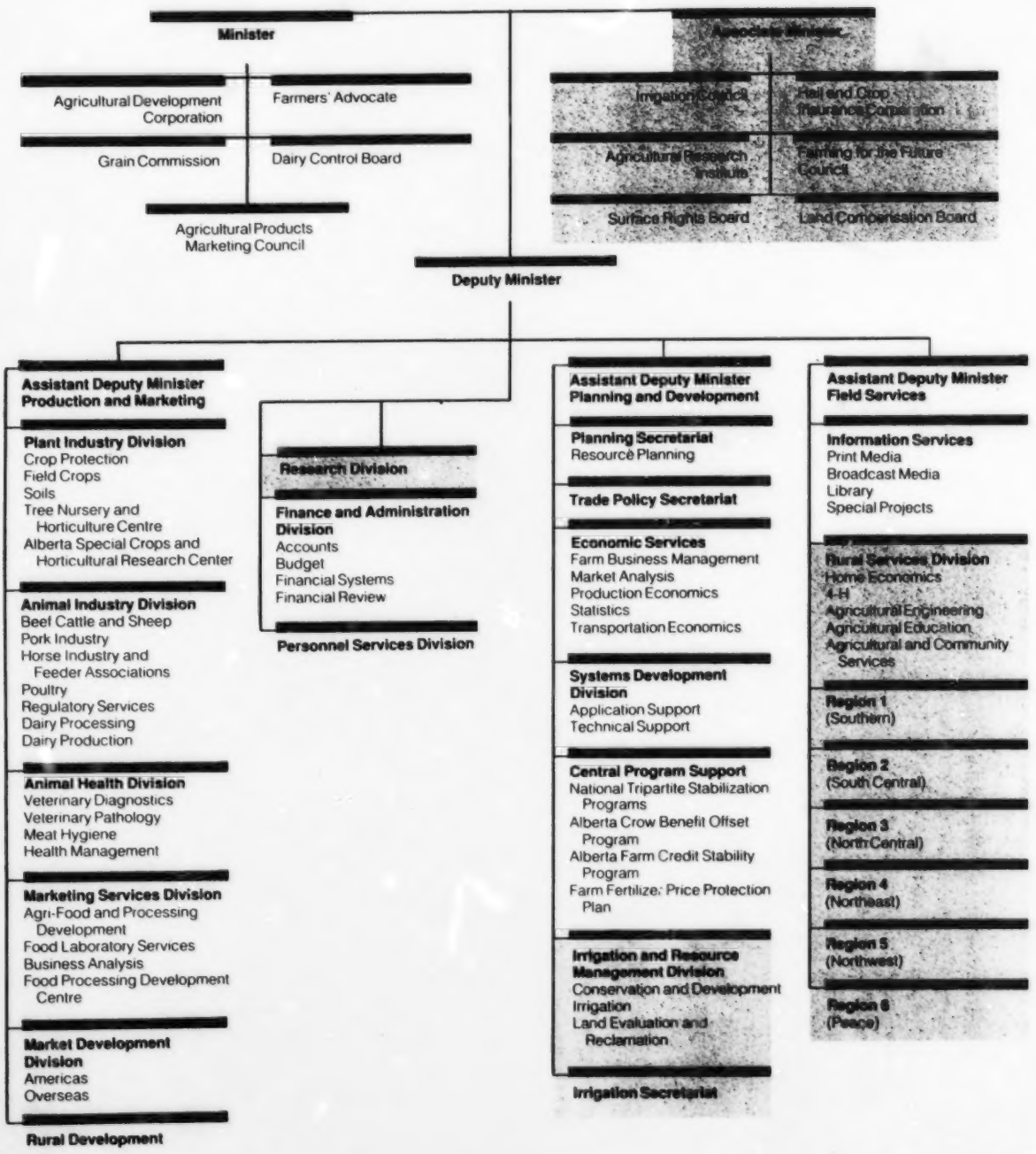
Appendix 1: Organizational Chart - Alberta Agriculture

March 31, 1991



N.B. The areas printed in grey ink are the Associate Minister's day-to-day responsibilities, and the areas to which she responds in the Legislature.

Regions and Districts

Region 1 ..... Southern
Region 2 ..... South Central
Region 3 ..... North Central
Region 4 ..... North East
Region 5 ..... North West
Region 6 ..... Peace River

Regional Office .... □

District Office ..... •

Permanent Positions as of March 31, 1991	
Department support services	66
Primary production	524
Field services	462
Planning and development	234
Boards, Councils, Commissions, etc.	59
Total	1385

Personnel Services Transactions April 1, 1990 - March 31, 1991	
Commencements	144
Terminations	140
Transfers	84

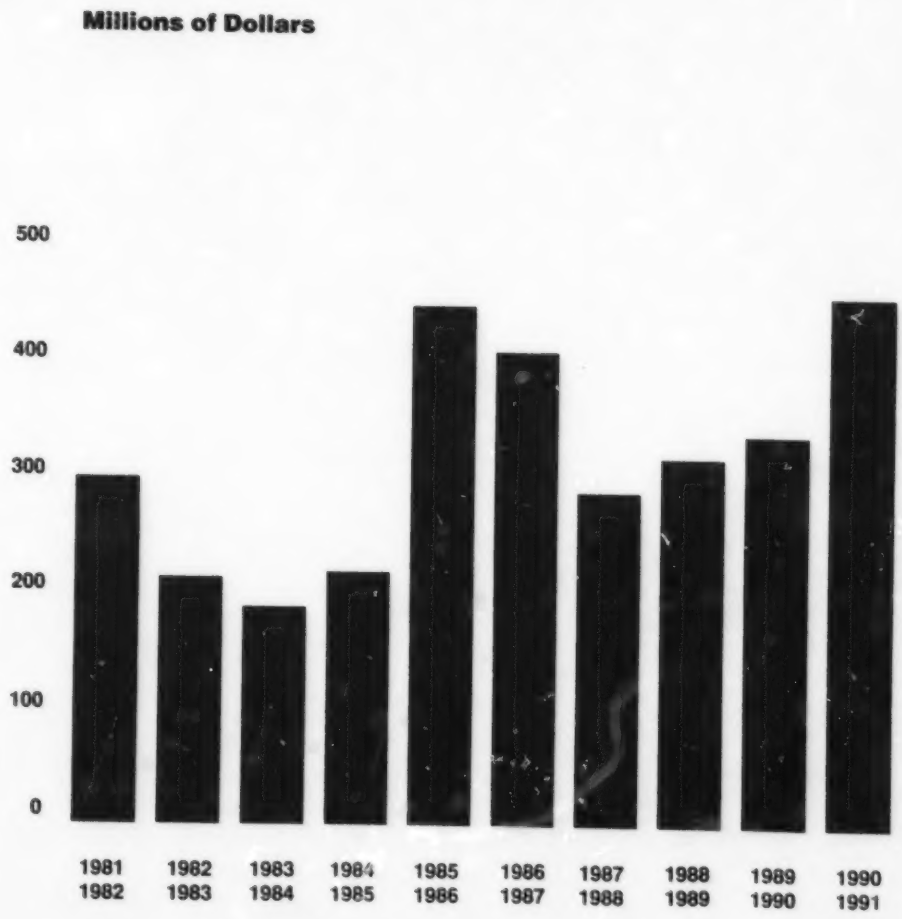
Occupational Health and Safety Program Statistics April 1, 1990 - March 31, 1991	
Employee hours worked	3,247,274
Disabling injuries	20
Medical aid cases	28
Fatalities	1
Frequency rate*	24.93
Severity rate**	8,148.51

**Frequency rate is the number of disabling injuries per million manhours.*
***Severity rate is the number of work days lost due to disabling injuries per million manhours.*

Alberta Agriculture Injury Costs	
Current Costs (April 1, 1990 - March 31, 1991)	
WCB assessment	$513,425
Compensation of wages (includes government supplement)	$ 67,235
Medical costs	$ 33,447
Pension awards	$ 27,231
Prior Year's Cost	
Compensation of wages	$ 89,851
Medical costs	$ 17,058
Pensions	$ 49,025
Total Cost	**$797,272**

Alberta Agriculture's Expenditures

(Fiscal Years 81-82 to 90-91)



Budget Estimates, Special Warrants and Expenditures Classified by Vote
($'000)

	1990-91 Budget estimates	1990-91 Special warrants	Expenditures for the years ending March 31 1991[a]	1990[b]
Vote 1 – Departmental Support Services				
(No sub-program breakdown)				
	11,340		**10,822**	10,866
Vote 2 – Support for Primary Production				
(Sub-programs)				
Program support	**2,733**		**2,699**	2,767
Animal products	**64,576**	**7,060**	**70,476**	91,261
Animal health	**8,480**		**8,555**	8,430
Plant products	**46,557**	**102,100**	**144,827**	32,808
Vote 3 – Support for Marketing and Processing				
(Sub-programs)				
Program support	**595**		**618**	612
Marketing services	**17,097**	**19,300**	**35,427**	22,187
Market development	**4,350**		**4,538**	4,209
Vote 4 – Field Services				
(Sub-programs)				
Program support	**273**		**222**	251
Advisory services	**17,572**		**17,496**	16,571
Rural services	**11,187**		**11,125**	14,801
Total Vote 4	**29,032**		**28,843**	31,623

continued

Continued

Budget Estimates, Special Warrants and Expenditures Classified by Vote
($'000)

	1990-91 Budget estimates	1990-91 Special warrants	Expenditures for the years ending March 31 1991[a]	1990[b]
Vote 5 – Planning and Development				
(Sub-programs)				
Program support	**1,738**		**1,524**	1,592
Economic services	**4,642**		**4,452**	4,350
Irrigation and resource management	**13,599**		**13,475**	11,030
	19,979		**19,451**	16,972
Vote 6 – Agriculture Development Lending Assistance				
(No sub-program breakdown)				
	77,682		**77,682**	94,315
Vote 7 – Crop Insurance Assistance				
(No sub-program breakdown)				
	50,153	**3,581**	**48,207**	17,751
Vote 8 – Agricultural Research Assistance				
(No sub-program breakdown)				
Total Vote 8	**1,000**		**1,000**	0
Total Department	**333,574**	**132,041**	**453,145**	333,801

[a] Preliminary – not audited
[b] Audited figures have been restated where necessary to conform to 1991 presentation.

Statement of Revenue for the Year Ended March 31, 1991

	1990-91[a]	1989-90[b]
Payments from Government of Canada:		
Farm income assistance program	**$ 89,200,000**	
Agriculture processing and marketing agreement	**2,477,802**	$2,553,894
Other	**549,811**	509,226
Total Payments from Government of Canada	**92,227,613**	3,063,120
Fees, Permits and Licenses:		
Brand inspection	**1,696,093**	1,719,938
Brand registration fees	**265,380**	278,388
Farm livestock veterinary laboratory fees	**203,051**	193,225
Livestock water program	**93,370**	130,293
Swine breeding	**122,142**	128,731
Soil and feed testing	**98,543**	111,615
Dairy laboratory testing	**92,199**	93,277
Other	**452,792**	402,653
Total Fees, Permits and Licenses	**3,023,570**	3,058,120
Other Revenue:		
Refunds of expenditure:		
Previous year refunds	**4,417,650**	2,009,051
Dairy Board Act	**475,924**	411,650
Other	**16,228**	3,019
Sale of assets	**100,646**	567,557
Miscellaneous	**481,307**	635,886
Total Other Revenue	**5,491,755**	3,627,163
Total Revenue	**$100,742,938**	**$9,748,403**

[a] Preliminary – not audited
[b] Audited figures have been restated where necessary to conform to 1991 presentation.

Authorizations:	
Number of active loan authorizations	30,556
Amount authorized	$2,457,900,000
Average loan amount	$ 80,000
Loan Advances:	
Number of loan advances	30,521
Total amount advanced	$2,453,477,236
Average loan advance	$ 80,386

Loan Categories:

	Amount advanced	**%**
Category A (Refinancing – same lender)	$1,090,106,557	44.4
Category B (Refinancing – other creditors)	$ 330,181,913	13.5
Category C (New acquisitions)	$1,033,188,766	42.1

Alberta Participation in National Tripartite Stabilization 1990-91

Commodity	Enrollments	Stabilization Payments
Slaughter cattle	3,912	$1,454,000
Feeder cattle	2,968	-
Cow-calf	7,845	-
Lambs	645	$1,114,700
Hogs	5,369	$ 588,000
Sugar beets	563	-
Beans	209	$ 473,295
Honey	226	$1,479,558

National Tripartite Stabilization Eligible Units Report 1990-91

Commodity	Units*		Estimated % of Alberta production covered	Alberta as % of NTSP
Slaughter cattle	1,217,000	head	90	64
Feeder cattle	199,000	head	-	49
Cow-calf	577,000	head	33	63
Hogs	2,145,000	head	98	16
Lambs - ewe flock	48,000	lambs	53	38
- home-raised	22,700	lambs	53	58
Honey	22,485,684	lb	92	42
Sugar beets	511,548	tonnes	100	59
Beans	10,271	tonnes	99	77

* Includes eligible sales and/or registrations.

Sector	No. of grants	Total
Processed food development	102	$655,140
Industrial development	8	52,928
Crops, horticulture and feedstuffs	32	362,062
Livestock	63	480,084
Total	205	$1,550,215

Canada/Alberta Agricultural Processing and Marketing Agreement 1990-1991 Payments

Alfalfa	Capital	$1,593,890
Bakeries	Capital	$ 199,951
Containers	Capital	$ 10,204
Dairy	Capital	$ 61,684
Feed	Capital	$ 503,769
Meat	Capital	$ 428,349
Seed	Capital	$ 165,746
Vegetable	Capital	$ 399,169
Miscellaneous	Capital	$1,5[illegible]1,590
Miscellaneous	Research	$ 49,840
Total		$4,954,192

Offers Made Under the Canada/Alberta Agricultural Processing and Marketing Agreement

	No. of offers	Private investment	Assistance offered
Alfalfa	1	$ 612,700	$ 122,540
Bakery	1	$ 134,695	$ 24,245
Dairy	1	$ 1,574,539	$ 314,908
Feeds	2	$ 477,478	$ 87,935
Meat	4	$ 651,252	$ 151,063
Seeds	2	$ 317,235	$ 64,900
Vegetables	1	$ 196,753	$ 49,198
Miscellaneous	8	$43,619,495	$7,838,008
Total	20	$47,584,147	$8,652,787

Nutritive Processing Agreement (NPA) Payments

Bakery	$ 806
Feeds	$ 37,394
Meat	$ 43,498
Miscellaneous	$ 96,042
Total	$177,740

Appendix 9: Analyses Performed by the Food Laboratory Services Branch

April 1, 1990 TO March 31, 1991

	Samples analysed		Analyses performed	
	90-91	89-90	90-91	89-90
Milk	**23,401**	24,877	**146,596**	157,904
Butter	**70**	122	**335**	680
Cheese	**683**	806	**2,953**	3,486
Ice cream	**986**	1,556	**2,214**	3,381
Dry milk	**6**	12	**9**	53
Processing plants survey	**1,021**	1,085	**4,021**	4,143
Honey	**793**	1,709	**1,231**	3,058
Water	**344**	267	**1,035**	792
Eggs	**1,392**	1,173	**1,858**	1,557
Meat	**1,387**	1,720	**5,155**	6,912
Vegetables	**402**	474	**1,329**	1,554
Fish and wildlife	**–**	119	**–**	547
Cereal products and forage	**663**	663	**2,716**	**2,542**
Soil	**84**	114	**100**	157
Research and collaborative studies	**261**	309	**362**	355
Central milk testing	**668,277**	658,624	**2,674,403**	2,639,101
Total	**701,232**	694,882	**2,848,632**	2,830,522

Recording of Brands Summary

	Cattle	Horses	Sheep	Total
New brands issued	1,404	252	1	**1,657**
Transfers	689	66	0	**755**
Brands renewed	9,105	1,503	0	**10,608**
Brands reissued	159	47	0	**206**
Brands in good standing (March 31, 1991)	44,752	7,318	7	**52,077**

Livestock Inspections

Classes of livestock	No. of inspections	Change from previous year
Cattle	34,711	+ 3.4 %
Hogs	154,955	+ 1.5 %
Sheep	13,501	+40.6 %
Goats	2,028	+13.9 %
Buffalo	173	+ 1.2 %
Rabbits	4,859	- 54.6 %
Broilers	2,962,603	- 1.3 %
Fowl	275,467	+ 2.0 %
Other poultry	120,401	- 1.7 %

Appendix 11: Acts Administered by Alberta Agriculture

Agricultural Development Act
Agricultural Operation Practices Act
Agricultural Pests Act
Agricultural Research Institute Act
Agricultural Service Board Act
Agricultural Societies Act
Agrologists Act
Animal Protection Act
Artificial Insemination of Domestic Animals Act
Bee Act
Beet Lien Act
Brand Act
Crop Liens Priorities Act
Crop Payments (Irrigated Land Sales) Act
Dairy Board Act
Dairy Industry Act
Department of Agriculture Act
Farm Implement Act
Federal-Provincial Farm Assistance Act
Feeder Associations Guarantee Act
Fur Farms Act
Hail and Crop Insurance Act
Harvesting Liens Act
Horned Cattle Purchases Act
Irrigation Act
Irrigation Land Manager Act
Line Fence Act
Livery Stable Keepers Act
Livestock Diseases Act
Livestock Identification and Brand Inspection Act
Livestock Injury Act
Livestock and Livestock Products Act
Margarine Act
Marketing of Agricultural Products Act
Meat Inspection Act
Seed Control Areas Act
Seed Grain Purchase Act
Soil Conservation Act
Stray Animals Act
Surface Rights Act
Threshers' Lien Act
Vegetable Sales (Alberta) Act
Veterinary Profession Act
Weed Control Act
Wheat Board Money Trust Act

Appendix 12: Other Annual Reports

Statutory Annual Reports Issued by Boards, Commissions and Corporations Reporting to the Minister of Agriculture and Associate Minister of Agriculture

Alberta Dairy Control Board
Alberta Hail and Crop Insurance Corporation
Alberta Agricultural Development Corporation
Alberta Agricultural Products Marketing Council
Alberta Agricultural Research Institute

Other Annual Reports Issued by Alberta Agriculture

Animal Industry Division
Animal Health Division
Plant Industry Division
Farming For The Future
Farmers' Advocate
Surface Rights Board

Balance Sheet as at March 31, 1991 (unaudited)

Assets	1991	1990
Cash	$ 54,391	$53,263
Accrued interest	1,419	1,419
Investment	52,997	52,995
Unexpended Funds	**$108,807**	$107,677

Statement of Revenue, Expenditure and Unexpended Funds for the Year Ended March 31, 1991 (unaudited)

Revenue	1991	1990
Interest and amortization of discounts	$ 10,130	$ 10,244
Expenditure		
Scholarships and bursaries (Note 1)	9,000	18,600
Excess of revenue over expenditure	1,130	(8,356)
Unexpended funds at beginning of year	107,677	116,033
Fund equity at End of Year	**$108,807**	$107,677

Authority
The Wheat Board Money Trust Account operates under the authority of the Wheat Board Money Trust Act, Chapter W-7, Revised Statutes of Alberta 1980.

Note 1 Scholarships and bursaries issued:

	1991	1990
Lakeland College	0	4,800
Olds College	0	4,800
Fairview College	2,400	2,400
Lethbridge Community College	2,400	2,400
4-H Regional Councils	4,200	4,200
Total	$ 9,000	$ 18,600

Duplicate payment made in 1990 corrected in 1991.

Alberta's Population and Land Area

		1986 Census
Total population		2,375,278
Farm population		183,830
Number of farms		57,777
Total land area	acres	157,710,720
Occupied farm land	acres	51,040,463
Improved land	acres	31,891,516
Unimproved land	acres	19,148,947

Alberta's Farm Capital Values 1990

	Value *($'000)*
Land and buildings	22,502,573
Livestock and poultry	3,040,002
Implements and machinery	5,564,493
Total Farm Capital Value	31,107,068

Estimated Farm Cash Receipts for Alberta[1]

	1991[p]	($'000)	1990[r]
Wheat	**689,000**		716,000
Oats	**22,000**		37,000
Barley	**214,000**		272,000
CWB advances and deferments (net)	**12,000**		21,000
WGSA payments	**49,000**		0
Crop insurance payments	**56,000**		139,000
Rye	**5,000**		5,000
Flaxseed	**5,000**		8,000
Canola	**313,000**		345,000
Sugar Beets	**20,000**		27,000
Potatoes	**45,000**		38,000
Vegetables	**41,000**		40,000
Floriculture and nursery	**40,000**		38,000
Other crops	**80,000**		73,000
Deficiency and supplementary payments[2]	**245,000**		103,000
Total Crops	**1,837,000**		1,862,000
Cattle and calves	**1,536,000**		1,565,000
Hogs	**268,000**		299,000
Sheep and lambs	**5,000**		7,000
Milk and cream	**250,000**		251,000
Poultry	**101,000**		105,000
Eggs	**43,000**		43,000
Other livestock and products	**43,000**		36,000
Deficiency and supplementary payments[2]	**62,000**		76,000
Total Livestock and Products	**2,308,000**		2,382,000
Total Farm Cash Receipts	**4,145,000**		4,244,000

r - revised *p* - preliminary

1 Alberta Agriculture forecasts in conjunction with Statistics Canada.

2 Includes Federal and Provincial Income Stabilization and supplementary payments

Farm Operating Expenses and Depreciation in Alberta

	1991[p]	($'000)	1990[r]
Taxes	**85,000**		81,000
Gross farm rent	**162,000**		176,000
Wages to farm labor	**281,000**		278,000
Interest payments	**515,000**		497,000
Total machinery expenses	**608,000**		607,000
Fertilizer and lime	**238,000**		249,000
Other crop expenses	**310,000**		338,000
Feed	**265,000**		281,000
Other livestock expenses	**299,000**		292,000
Repairs – buildings and fence	**99,000**		104,000
Electricity and telephone	**88,000**		90,000
Miscellaneous	**294,000**		236,000
Total Operating Expenses	**3,244,000**		3,229,000
Depreciation on buildings	**87,000**		91,000
Depreciation on machinery	**585,000**		602,000
Total Operating Expenses and Depreciation Charges	**3,916,000**		3,922,000

[r] - revised [p] - preliminary

Income of Alberta Farm Operators

	1991[p]	($'000)	1990[r]
Total farm cash receipts	**4,145,000**		4,244,000
Total operating expenses	**3,244,000**		3,229,000
Net cash income	**901,000**		1,015,000
Income in kind	**26,000**		25,000
Depreciation charges	**672,000**		693,000
Realized net income	**255,000**		347,000

[r] - revised [p] - preliminary

Estimates of Alberta's Out-of-Province Shipments 1990*

Commodity	Quantity ('000 tonnes)	Value ($'000)
Wheat	5,686	1,061,988
Barley	2,645	342,547
Canola	1,243	368,204
Beef and veal	308	735,498
Pork	54	143,574
Cattle (number)	458,510	386,265
Hogs (number)	377,952	56,104
Other agricultural products	–	867,239
Total		3,961,419

*Includes inter-provincial and international exports.

Alberta's Out-of-Country Exports Estimates – 1990

Commodity	Quantity ('000 tonnes)	Value ($'000)
Wheat	5,494	1,037,746
Barley	2,276	306,934
Canola	734	229,654
Beef	38	92,223
Pork	32	84,892
Cattle (number)	275,586	253,814
Hogs (number)	252,104	35,260
Other agricultural products	–	651,718
Total		2,692,241

Alberta's Food and Beverage Sector

	1988	1987
Estimated value of shipments ($ billions)	**4.53**	4.27
Value added ($ billions)	**1.03**	0.93
Number of employees	**14,694**	14,124
Number of establishments	**310**	290

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